

18th October

IASbaba

Alzheimer's Disease Syllabus Prelims -SCIENCE AND

TECHNOLOGY SOURCE: SCIENCE ALERT

Context: Recently, scientists discovered that deep sleep can keep the symptoms of Alzheimer's disease at bay.

Background:-

- Deep sleep could be key to forestalling slow declines in brain health that may one day lead to Alzheimer's disease, the most common form of dementia.
- Based on their investigation involving 62 older, cognitively healthy adults, researchers from the University of California (UC) Berkeley, Stanford University, and UC Irvine in the US found individuals with brain changes associated with Alzheimer's performed better on memory function tests as they got more deep sleep.

About Alzheimer's disease:-

Facts about Alzheimer's Disease

Alzheimer's disease is a type of dementia that causes problems with memory, thinking & behavior.

3.7 million Indians suffer from Alzheimer's disease.

Alzheimer's disease is the most common form of dementia, a general term for memory loss and other cognitive abilities serious enough to interfere with daily life.

Alzheimer's disease typically progresses slowly in three general stages:

- Mild (early-stage)
- Moderate (middle-stage)
- Severe (late-stage)

People with Alzheimer's disease live for **8 yrs** after symptoms begin.

Memory loss is the most common symptom. Other symptoms include

- 2+2=?
Trouble completing tasks that were once easy
- Difficulty in solving problems
- Changes in mood or personality
- Withdrawing from friends & family
- Confusion about places, people and events
- Visual changes, such trouble understanding images

Alzheimer's disease is not a normal part of aging.

Alzheimer's disease worsens over time.

Alzheimer's Disease has no current cure, but treatments for symptoms are available and research continues.

www.manipalhospitals.com

- Alzheimer's disease is a neurological disorder.
- It causes brain cells to degenerate and die.

- This leads to loss of memory, problems with words in speaking or writing, poor judgment, changes in mood and personality, confusion with time or place, etc.
- It is a brain disorder that gets worse over time.
- **Alzheimer's** is the most common cause of dementia among older adults.
- Alzheimer's is an incurable disease, as the death of brain cells cannot be reversed.
- Women have a higher risk of having Alzheimer's disease than men.

Causes:-

- Alzheimer's disease is thought to be caused by the abnormal build-up of proteins in and around brain cells.
- One of the proteins involved is called amyloid, deposits of which form plaques around brain cells and the other protein is called tau.
- Tau is a protein that when it occurs in tangled formations in the brain of Alzheimer patients, disrupts the ability of neurons to communicate with one another in the brain.

Symptoms:-

A gradual decline in some, most or all of the following:-

- Memory.
- Reasoning and handling of complex tasks.
- Language.
- Understanding visual form and space relationship.

Management and Treatment:-

Medication:

- There's no cure for Alzheimer's disease, but certain medications can temporarily slow the worsening of dementia symptoms.
- The U.S. Food and Drug Administration (FDA) has approved two types of drugs to treat the symptoms of Alzheimer's disease:
 - Cholinesterase inhibitors.
 - NMDA antagonists.

Managing behaviour changes:-

- Maintaining a familiar environment for them.
- Monitoring patients' comfort.
- Providing comfort objects, such as a favorite stuffed animal or blanket.

World Food Day 2023 Syllabus Prelims - GOVERNANCE

Context: Recently, World Food Day 2023

Background:- WWF report states that the water crisis threatens \$58 trillion in economic value, food security and sustainability.

About World Food Day 2023:- Founded in 1945. Date: 16th

- Theme of World Food Day in 2023: "Water is life, water is food." "Don't leave anyone behind." "Water is necessary for life on Earth."
- The Food and Agriculture Organization (FAO), a United Nations specialized agency, founded World Food Day in 1945.

- It was declared an international holiday after 34 years during the 20th FAO summit in November 1979.
- World Food Day educates people globally about hunger, food security, and malnutrition, fostering empathy and understanding.
- It provides a platform for governments, NGOs, and institutions to advocate policies enhancing food security.
- It emphasizes sustainable practices like crop rotation and conservation farming, promoting long-term food security while preserving natural resources.
- It inspires individuals and communities to volunteer, support local farmers, and promote nutrition education.
- It provides a platform for discussions on climate change's impact on agriculture, food distribution inequalities, and the need for farming innovations.
- It encourages collaboration between nations, NGOs, and organizations.

SOURCE: [DOWN TO EARTH](#)

Chilobrachys natanicharum Syllabus Prelims

–ENVIRONMENT ANT ECOLOGY SOURCE: [SCIENCE ALERT](#)

Context: Recently, a new species of tarantula *Chilobrachys natanicharum* was recently found. around the mangrove forest of Thailand.

About *Chilobrachys natanicharum*:-

- Family: Theraphosidae.
- It's the first tarantula ever identified living in Thailand's mangroves.
- The spider had been known for some time in the exotic spider trade.
- It is referred to as the Electric Blue Tarantula.
- Tarantulas are a type of large, hairy spider belonging to the family Theraphosidae.
- "Blue is one of the rarest colours to appear in nature, which makes blue colouration in animals particularly fascinating.
- The Tarantula derives its colours not from the presence of any blue pigmentation but rather from "the unique structure of their hair, which incorporates nanostructures that manipulate light to create this striking blue appearance.
- These hairs are present on various parts of the spider's body, including its legs, pincer-like mouth appendages, and upper shell.
- The electric blue tarantula demonstrates remarkable adaptability. ([Money Spider and Ant-mimicking Spider](#))
- These tarantulas can thrive in arboreal (within tree hollows) as well as terrestrial burrows in evergreen forests.
- However, when it comes to mangrove forests, their habitat is restricted to residing inside tree hollows due to the influence of tides.

Significance:- Findings like these highlight the value of preserving these natural habitats, where unique species have carved out small but important ecological niches.

Special Campaign 3.0 initiative Syllabus Prelims

–GOVERNMENT SCHEMES SOURCE: [PIB](#)

Context: The Department of Water Resources, River Development & Ganga Rejuvenation undertook the Special Campaign 3.0 initiative recently.

Background:- The activities relating to cleanliness, review & simplification of rules & procedures, review of the record management system, productive use of space, and disposal of waste materials for enhancing workplace experience are being undertaken. ([Water Crisis in India](#))

About Special Campaign 3.0 initiative:-

- Launched: 2nd October, 2023.
- Time period: from 2nd October, 2023 to 31st October, 2023.
- Ministry: Ministry of Personnel, Public Grievances & Pensions.
- Nodal Agency: Department of Administrative Reforms and Public Grievances.

Background:-

- The Special Campaign 3.0 was preceded by a preparatory phase from 15th September to 30th September 2023.
- The launch ceremony was attended by nodal officers of Special Campaign 3.0, Nodal Officers of Public Grievances and Appellate Authorities in all the 84 Ministries/Departments of Government of India.

Objectives of the Campaign are:-

- Digitization – Creation of Intra-Ministerial portals
- 100% digital receipts
- Efficient Management of Office Spaces – Use of Compactors
- Clearing of scrap
- Enhancement of Office Spaces – Creation of Wellness 4 Department of Administrative Reforms and Public Grievances Centres
- Improvement of Office Corridors
- Environment-friendly Practices – Automatic power systems
- EV charging stations
- Inclusivity Measures – Enabling washrooms/Elevators/ Ramps for differently-abled persons
- Washroom for ladies

Salient Features:-

- Special Campaign 3.0 focuses on Swachhata and Reducing Pendency in Government Offices with a saturation approach.
- It will focus on field/outstation offices responsible for service delivery or having a public interface in addition to the Ministries/Departments and their attached/subordinate offices.
- The Special Campaign 3.0 will be conducted in all Central Ministries / Departments, and attached/subordinate offices of the Government of India.
- The Preparatory part of the Special Campaign 3.0 will commence with the launch of the Special Campaign 3.0 portal and will continue till September 30, 2023.
- During this Ministries/Departments will identify the pendency in selected categories and finalize the campaign sites.
- The website <https://scdpm.nic.in> is a dedicated web portal for monitoring Special Campaign 3.0.
- All Ministries / Departments shall report monitored data on this website which is a single digital platform.
- The campaign thrust areas are MP's References, Parliamentary Assurances, PMO Inter-departmental Memos, Inter-Ministerial Consultation
- References, State Government References, Public Grievances, Public Grievance Appeals, Record Management Practices, Swachhata Campaign sites and Scrap Disposal.
- The Special Campaign 3.0 portal will open for updation of achievements data for the campaign on October 2nd -31st and will be closed on November 5th, 2023.
- A third-party evaluation will be undertaken from November 14th -30th, 2023.
- DARPG has created Hashtag #SpecialCampaign3.0 for Social Media Posts.

INDIA-SRI LANKA FERRY SERVICE AFTER 40 YEARS

Syllabus GSPAPER 2

Context: An age old sea route between India and Sri Lanka has been rejuvenated with the inauguration of a passenger ferry service from Nagapattinam in Tamil Nadu to

Kankesanthurai in Jaffna, Northern Sri Lanka. The ferry service was launched with a vessel named 'Cheriyapani'.

ABOUT THE SERVICE: The Maritime linkage between the two is not new, Earlier Indo-Ceylon express or boat Mail ran between Chennai and Colombivia the Thoothukudi port from the early 100s up until 1982.



- The most popular route was from Dhanushkodi to Talaimannar, it time taken was roughly 2 hrs.
- The service came to halt due to civil war in Sri Lanka.
- For the resumption of service, attempts started in 2009 after civil war ended.
- In 2011 Memorandum of Understanding concerning passenger transportation by sea was signed but it did not last for more than six months.

POTENTIAL IMPACT OF THE FERRY SERVICES

- **Transportation and Connectivity:** Ferry services provide an additional transportation option for travelers, enhancing accessibility to different regions and countries, especially when there are no direct land routes or when travel by road is less practical.
- **Tourism Promotion:** Ferry services can boost tourism by making it easier for tourists to explore island. Especially it will promote religious tourism. Indian pilgrim centres such as Nagapattinam, Nagore, Velankanni, Thirunallar and temple towns such as Thanjavur, Madurai and Tiruchi are expected to see an influx of Lankan tourists.
- **People-to-People Connections:** Ferry services can foster cultural exchange and people-to-people diplomacy between two countries, helping build closer relationships.
- **Economic Development:** It can promote economic development in coastal and island regions by increasing accessibility and encouraging investment in infrastructure and tourism.
- **Reduced Carbon Footprint:** Ferries are generally considered more environmentally friendly than other modes of transport, such as air travel, as they produce lower carbon emissions per passenger-kilometer.

CHALLENGES

- **Border Disputes:** The maritime boundary between India and Sri Lanka has been a source of dispute in the past. Hence, ferry route would require careful consideration of these disputes and adherence to international laws.
- **Maritime Security:** Ensuring the safety and security of passengers and cargo on a ferry route is essential. Addressing potential threats from piracy or terrorism in the region is a significant challenge.
- **Port Infrastructure:** Developing and maintaining adequate port facilities in both India and Sri Lanka for handling ferry operations is the biggest challenge as of now. Initial plan of Shipping Corporation of India is to run services thrice a week.
- **Financial Viability:** Assessing the economic feasibility and long-term sustainability of the ferry route, given potential fluctuations in demand and competition with other modes of transportation, is crucial. Currently, the price of ticket is approximately Rs 7,670 which is costly hence can make tourist choose other viable routes.

How Synergistic Barriers are Affecting Progress on SDGs

Context

- **Focusing the lack of progress on various Sustainable Development Goals (SDGs)**, including biodiversity protection and greenhouse gas (GHG) emissions, world leaders met at the SDG Summit in New York on September 18 and 19, 2023.
- The summit once again **reaffirmed their shared commitment to eradicate poverty and end hunger**.

Sustainable Development Goals (SDGs)

- The SDGs/Global Goals were **adopted by the United Nations in 2015** as a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity.
- The SDGs framework sets **targets for 231 unique indicators across 17 SDG goals** related to economic development, social welfare, and environmental sustainability, **to be met by 2030**.
- The 17 SDGs are **integrated**; they recognise that action in one area will affect outcomes in others, and that development must balance **social, economic, and environmental sustainability**.
- Countries have committed to **prioritise progress for those who are the farthest behind**.
- The **creativity, technology, and financial resources** from all of society are necessary to achieve the SDGs in every context.

Progress on Sustainable Development Goals Across the Globe

- The SDG summit in New York **recognised that the world was on track to meet only 15% of its 169 targets that make up the 17 goals**, with quite a few going in reverse gear.
 - To address the concern **the leaders committed to an SDG stimulus of \$500 billion annually** as well as to define an effective debt-relief mechanism for the economically poorest countries.
 - While this political declaration needs to be welcomed as a renewed commitment to Agenda 2030, **there is little to inspire confidence that there will be greater progress in the second half** of the commitment period.
- A 2023 report of the United Nations Conference on Trade and Development **estimated the investment gap in SDGs in developing countries to be greater than \$4 trillion**, which is 70% higher than estimates arrived at in 2014.
- Of this, **nearly \$2 trillion needs to be directed towards the energy transition alone!**
- These figures, representing the estimated sum of investment required by specialised agencies responsible for tracking each SDG **seem unachievable, thus rendering the SDGs seemingly unachievable as well**.

Identified Dis-Synergies Working as Barriers

- **A fundamental statement in the Agenda 2030 document** detailing the SDGs recognises the indivisible and integrated nature of the 17 SDGs and their contribution to the three pillars of sustainable development.
- A lot of the academic literature has also focussed on the **'synergies' and 'trade-offs' that exist in the pursuit of specific SDGs**.
- A paper published by the journal **Proceedings of the National Academy of Sciences identified five types of (dis)synergies** that can be estimated along the value chain of an SDG intervention:
 - **Those arising from resource allocations;**
 - **Creation of enabling environments;**
 - **Co-benefits;**
 - **Cost-effectiveness;**
 - **And saturation limits.**
- The paper was **based on pilot studies in 2018 in three countries – Senegal, Côte d'Ivoire, and Malawi** that quantified the **savings estimates by taking a limited synergistic approach**.

- A recently launched U.N. Expert Group Report, entitled '**Synergy Solutions for a World in Crisis: Tackling Climate and SDG Action Together**', also focuses on the **lack of synergistic action in the face of significant evidence.**
 - It classifies **key barriers** to such an approach into **knowledge, political and institutional barriers, and economic issues.**

Synergistic Barriers Affecting India's Progress Towards Meeting SDGs

- **Ambitious Targets Act as Barriers for Small-Scale Applications**
 - Policymaking processes are generally robust, with a clear view on synergistic outcomes, especially **when multi-stakeholder approaches to policymaking are practiced.**
 - For example, in India, **the push for renewable energy started with both energy security and air pollution in focus**, and received a push with climate commitments.
 - However, **it hasn't been able to leverage the health benefits** arising from lower air pollution to strengthen arguments for greater incentives for renewables.
 - The ambitious renewable energy targets themselves became a barrier for small scale applications due to a mis-alignment of deliverables.
 - **While the energy departments had targets in gigawatts, primary health centres had needs in kilowatts**
 - And it led to their neglect in energisation, even though **the health outcomes could have been very significant.**
- Other than that, **isolated operations, inadequate cross-departmental data collection and analysis, and an inability to attribute co-benefits to specific actions are all barriers for meeting greater targets.**

Suggestions for India to Speed-Up the Process of Achieving SDGs

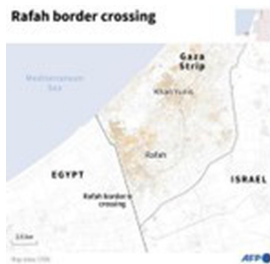
- **Analysis of Institutional Barriers**
 - Simply recognising interlinks **without a robust analysis and understanding of institutional barriers will not yield the outcomes India desires.**
 - There is merit in both assessing as well as addressing barriers identified in the U.N. report in our national context.
- **Synergised Operations Across Departments**
 - **India must strengthen the environment for synergistic action**, and make transparent both the opportunities and limits to synergies arising from SDG interventions.
 - India has made significant progress on both its climate and sustainable development goals.
 - But it still has an uphill task ahead before it can meet all the SDG targets by 2030 as well as its promise to be net-zero by 2070.
- **Full Cost Estimation**
 - With a deadline less than 50 years away to transform India's economy, every new investment India initiates today leading to a high-carbon outcome **will likely lead to higher dis-synergies or trade-offs in our ability to achieve our energy and climate-justice goals.**
 - Establishing the domestic energy resources to enhance resilience to shocks is a worthwhile goal.
 - But at the same time, **exploiting those resources without a full cost estimation and synergetic approach** including weighing India's own vulnerability to climate-change impacts is **detrimental to both national and global efforts.**
 - **For example**, investing in clean energy options for urban transport could have a significant synergistic impact on air pollution and human health.

Conclusion

- **India can require all its resources** engaged in SDG reporting to **start identifying and developing reporting frameworks on the value created from specific SDG interventions.**
- Existing documents and reports on the subject **if modified to reflect Indian contexts could provide a useful starting point for this work.** [Editorial Analysis](#)

Rafah crossing

Recently, the area of the Rafah Border Crossing has been reportedly hit by a military strike.



About Rafah Crossing:

- The crossing is **at the south end of the Gaza Strip**, a narrow slither of land that is home to 2.3 million people.
- It is wedged between **Israel, Egypt, and the Mediterranean Sea.**
- The crossing is **controlled by Egypt.**
- It is the only likely route **for humanitarian aid to enter Gaza** via Rafah from Egypt's Sinai Peninsula region.
- There are only **two other border crossings: Erez**, a border crossing with **Israel** in north Gaza, and **Kerem Shalom**, a commercial **crossing between Israel and Southern Gaza.**

Key facts about Sinai Peninsula

- It is a **triangle-shaped peninsula** located in **northeastern Egypt.**
- It serves as a **land bridge** connecting **Asia and Africa.**
- **Boundaries:**
 - It is bordered **to the north** by the **Mediterranean Sea** and to the **east** by **Israel and the Gaza Strip.**
 - To the west of the **Sinai Peninsula** is the **Suez Canal**, across which lies the African part of Egypt.
 - It is bordered to the southwest by the **Gulf of Suez** and to the immediate south by the **Red Sea.**
 - The **Gulf of Aqaba** borders the Sinai in the **southeast.**
 - Egypt shares maritime borders in the Sinai with **Jordan and Saudi Arabia.** [\[Geography\]](#)

RISC-V technology

Recently, chip designer Qualcomm said that it is partnering with Alphabet's Google to make wearable devices like smartwatches using chips based on RISC-V technology.



About RISC-V technology:

- It is an **open-source technology** that is pronounced "risk five".
- It is an **open-source instruction set architecture (ISA)** used for the development of custom processors targeting a variety of end applications.
- It is considered the **fifth generation of processors** built on the concept of the reduced instruction set computer (RISC).
- It was begun as a **project at UC Berkeley** to create an open-source computer system based on RISC principles.
- It was initially designed for academic use. The standard has evolved and is now managed by RISC-V International.
- **How does RISC-V work?**
 - As an open-standard architecture, RISC-V is defined by member companies of RISC-V International, the **global nonprofit organization behind the ISA.**
 - The intent is that through collaboration, the **member companies can contribute to new avenues of processor innovation** while promoting new degrees of design freedom.
 - It features a small core set of instructions upon which all **the design's software runs.**
 - The architecture allows **designers to customize and build their processor** in a way that's tailored to their target end applications.
- **Benefits of RISC-V include:**

- Its **open-standard nature**, which allows **collaboration** and innovation across the industry.
- The entire RISC-V **architecture can be scrutinized closely** in the public domain, eliminating back doors and hidden channels.
- **Applications: Wearables, Industrial, IoT, and Home Appliances**, Smartphones, Automotive, High-Performance Computing (HPC), and Data Centers. **Science & Tech**

Advanced Traffic Management System (ATMS) Standards

To improve road safety and reduce incident response time, the National Highways Authority of India (NHAI) will implement upgraded and forward-looking Advanced Traffic Management System (ATMS) Standards and Specifications, 2023.



About the Advanced Traffic Management System (ATMS) Standards:

- **Aim:** To **enhance road safety**, reducing incidence response time and **digital enforcement on national highways and expressways**.
- The new standard **includes the following features**
 - It provides for the implementation of digital highways by developing integrated utility corridors along the national highways to develop **optic fibre cables (OFC) infrastructure**.
 - Under the new standards, **the existing VIDS cameras** will be replaced with the **Video Incident Detection and Enforcement System (VIDES)** to emphasize the digital enforcement of traffic rules.
 - For comprehensive coverage, these cameras are slated for installation every **10 km along National Highways** and the feeds from these cameras will be integrated at the command and control centres located at every 100 km
 - The vehicle speed detection system (VSDS) is now integrated into VIDES, optimizing use of automatic number plate recognition (ANPR) cameras.
 - Depending on the detected incident, VIDES will **alert route patrol vehicles** or ambulances, generate e-challans, relay alerts to nearby variable messaging boards, or **send notifications through 'Rajmargyatra' mobile app** to nearby travellers
- These measures play an **active role in disaster management** by providing inputs for effective planning and implementation.
- It will also provide online sharing of highway status and other important information that will help both the agencies and the highway users. **Government Schemes and Initiatives**

Muthuvan tribe

According to the Tamil Nadu Forest Department, Muthuvan tribe will be part of Nilgiri Tahr conservation project.



About the Muthuvan tribe:

- These people live in the border **hill forests of Kerala and Tamil Nadu**.
- They speak slightly different dialects and call each **other Malayalam Muthuvan and Pandi Muthuvan**.
- They are animists and spirit worshippers and **also worship the forest gods**.
- They believe that the spirits of their ancestors were the first migrants to the hill forests.
- They are known for **coexisting with wildlife** with their traditional knowledge.
- These tribal people follow a unique **system of governance** called the '**Kani System**'.
- Under this system, each village is headed by a 'Kani', who is responsible for the **administration of the village**.
- They are experts in traditional medicines, which are extremely effective, and the medicine is kept confidentially and passed down through generations.

- **Occupation:** Agriculture is the main occupation of these Muthuvan tribes, producing quite a number of products like ragi, cardamom and lemon grass.

What is Project Tahr?

- Under this project, the Tamil Nadu government plans to develop a **better understanding of the Nilgiri Tahr population** through surveys and radio telemetry studies
- **Reintroduce the Tahrs** to their historical habitat
- Address proximate threats.
- Increase public awareness of the species
- **Time period:** The project is to be **implemented for 5 year period from 2022 to 2027**. **Environment**

Lymphatic Filariasis

According to the World Health Organisation (WHO), Lao People's Democratic Republic becomes second country in 2023 after Bangladesh to eliminate lymphatic filariasis.



About Lymphatic Filariasis:

- It is commonly known as **elephantiasis**, and it is a **neglected tropical disease**.
- Infection occurs when filarial parasites are **transmitted to humans through mosquitoes**. This impairs the lymphatic system and can lead to the abnormal enlargement of body parts, causing pain, severe disability, and social stigma.
- Cause: It's caused by infection with parasites classified as nematodes (roundworms) of the family Filarioidae. There are three types of these **thread-like filarial worms**:
 - **Wuchereria bancrofti**, which is responsible for **90% of the cases**.
 - **Brugia malayi**, which causes most of the remainder of the cases.
 - **Brugia timori**, which also causes the disease.
- **Symptoms:** About two in every three people who have lymphatic filariasis don't have severe symptoms, but filariasis usually leads to a weakened immune system. Some people may experience **inflammation, Lymphedema, Hydrocele and Edema**.
- **Treatment:**
 - The World Health Organisation recommended preventive chemotherapy strategy for lymphatic filariasis elimination is **mass drug administration (MDA)**.
 - MDA involves administering an annual dose of medicine to the entire at-risk population.
- **Global Initiatives to Eradicate Lymphatic Filariasis:**
 - **WHO's road map 2021–2030:** Sets global targets and milestones to prevent, control, eliminate or eradicate 20 diseases.
 - **Global Programme to Eliminate Lymphatic Filariasis (GPELF):** WHO established this to stop the transmission of infection by mass drug administration (MDA) of anthelmintics and to alleviate the suffering of people affected by the disease through morbidity management and disability prevention (MMDP).
- According to the WHO progress report on the disease, **Nineteen countries** have been able to **eliminate it**.
 - Of the 19 countries, 11 belong to the WHO Western Pacific Region (WPR). Lao PDR is 11th country in the WPR region to successfully eliminate LF.
 - **South-East Asia region:** Bangladesh, the Maldives, Sri Lanka and Thailand.
 - **Africa region:** Malawi and Togo. **Health**

Key Facts about Gulf of Guinea

Indian Naval Ship INS Sumedha recently made a port visit to Lagos, Nigeria, as part of its deployment to the Gulf of Guinea (GoG).



About the Gulf of Guinea:

- It is the **northeasternmost portion** of the tropical **Atlantic Ocean**, located off the **western coast of the African continent**.
- It is found at the **junction of the Prime Meridian and the Equator** at 0°0'N and 0°0'E.
- The area covers **2.3 million square kilometres**, with approximately **6,000 kilometres of coastline**.
- It has a **narrow continental shelf**.
- It has **warm tropical waters** with **relatively low salinity** because of the rivers that **drain into it** and also due to the **high rainfall in the region**.
- Its **major tributaries** are the **Volta and Niger rivers**.
- Coastline:**
 - The **16 coastal countries** that are **situated along the Gulf of Guinea** are **Angola, Benin, Cameroon, Cote d'Ivoire, Democratic Republic of Congo, Republic of Congo, Guinea, Equatorial Guinea, Guinea-Bissau, Gabon, Nigeria, Ghana, São Tomé and Príncipe, Togo, and Sierra Leone**.
 - The **coastal region of the Gulf is mostly low-lying** and is **interspersed with mangrove swamps, marshes, and lagoons**.
 - The **coastline of the Gulf of Guinea is remarkably similar to the continental margin of South America** (that runs from Brazil to the Guianas), thus **establishing a clear confirmation of the theory of continental drift**.
- The Gulf of Guinea region accounts for more than **35% of the world's total petroleum reserves**.
- It is one of the world's **most dangerous gulfs** because of the **widespread piracy** that has severely affected many countries in West Africa, along with other international countries.

What is INS Sumedha?

- It is the **third ship** of the **indigenously built Saryu-class Naval Offshore Patrol Vessels (NOPV)**.
- It was **indigenously designed and built by Goa Shipyard Limited**.
- It was **commissioned** into the Indian Navy **on March 7, 2014**.
- It is **part of the Indian Navy's Eastern Fleet, based in Visakhapatnam**.
- Primary Functions:** To undertake **EEZ surveillance, anti-piracy patrols, fleet support operations**, provide maritime security to offshore assets, and carry out **escort operations** for high-value assets.
- Features:**
 - It has a **displacement of 2,230 tonnes** and measures **105 metres in length and 12.9 metres in beam**.
 - It is fitted with a **state-of-the-art weapon and sensor package**.
 - It **can carry an Advanced Light Combat Helicopter** onboard.
 - The ship is **propelled by two diesel engines**, the largest of their kind ever deployed in the Indian Navy, which allow it to reach a top speed of 25 knots.
 - With a range of **6,000 nautical miles (11,000 km) at 16 knots (30 km/h)**, the offshore patrol vessel is suitable for extended missions and operations. [Geography](#)

Saptakoshi High Dam

Nepal and India recently agreed to reduce the height of the proposed Saptakoshi High Dam amid concerns in Nepal over the potential inundation of a large swathe of land upstream of the dam.



About Saptakoshi High Dam:

- It is a **multipurpose project** proposed to be constructed **on the Saptakoshi River of Nepal** (known as Koshi River in India).
- The project is primarily aimed **at controlling floods in southeast Nepal and northern Bihar** and generating **hydropower**.
- It is a **bilateral project of the Indian and Nepalese governments** under the Koshi agreement.
- The **proposed place lies 1.6 km** upstream from Barahakshetra Temple in the **Sunsari district of Nepal**.

Key Facts about the Koshi River:

- The Koshi River, also known as the "Saptakoshi" in Nepal, is a **trans-boundary river that flows through India and Nepal**.
- It is the **largest river basin in Nepal**.
- It is one of the biggest **tributaries of the Ganga**.
- Course:**
 - It **originates from the Tibetan Plateau, crosses the Himalayas**, and flows through the Mahabharat range and Siwalik hills, **reaching the plains of eastern Nepal** and finally meeting the **Ganges in India**.
 - The **overall length** of the river is **729 km (453 miles)**.
- The Kosi river valley is **bounded by steep margins that separate it from the Yarlung Zangbo River** to the north, the **Mahananda River** to the east, the **Gandaki** to the west and the **Ganga** to the south.
- Tributaries:**
 - Indrawati, Sun Koshi, Tama Koshi, Likhu, Dudh Koshi, Arun, and Tamore** are the major **seven tributaries** of the Koshi river system.
 - These seven tributaries **meet at Triveni, from where it is called Sapta-Koshi**.
- Over the last 250 years**, the Kosi River has **changed its course**. It has an **unstable nature due to heavy silt**.
- The Koshi River, often dubbed the '**Sorrow of Bihar**,' inflicts devastating floods and substantial damage each year. [Geography](#)

Who are Chakmas?

A single-judge bench of the Tripura High Court recently asked the administration to take necessary measures to stop the persecution of two tribal Chakma families that converted to Christianity last year.



About Chakmas:

- Chakmas are one of the largest **ethnic groups native to the Chittagong Hill Tracts (CHT) region of southeastern Bangladesh**.
- They have their own **age-old culture, language, and scripts**.
- They **primarily live** in the Chittagong Hills Tracts of **Bangladesh**, the Chin and Arakan provinces of **Myanmar**, in the **northeastern Indian states of Mizoram, Tripura, and Arunachal Pradesh**, and a few families in **West Bengal**.
- Population:**
 - The Chakma population is estimated to be **around 550,000**.
 - The **majority** (approximately **300,000 people**) are located in the Chittagong Hill Tracts of **Bangladesh**.
 - There are also about **80,000 Chakmas in Mizoram State**.
- Religion:**
 - The majority of Chakmas practise **Theravada Buddhism, tinged with aspects of animism and Hinduism**.
 - Every Chakma village has a Buddhist temple (kaang)**, and the **Buddhist priests or monks are called Bhikhus**.
 - The **Chakmas worship Hindu deities like Lakshmi**, who is worshipped as the Goddess of the Harvest.
- Society:**
 - Chakmas are **divided into clans (gojas)**, which are further **subdivided into subclans (guttis)**.
 - Members of the same subclan are forbidden to marry each other**.
- Language:** The Chakmas speak a **dialect of Bengali (Bangla)** and use the **standard Bengali alphabet**.

- **Agricultural Practices:**
 - They practice **shifting cultivation called JUM**.
 - They **grow paddy, maize, cotton**, sesame, etc. in their JUM, along with vegetables and spices.
 - They **also know the art of low-land cultivation**.

Key Facts about Theravada Buddhism:

- Theravada, the "**Doctrine of the Elders**," is the name for the school of Buddhism that **draws its scriptural inspiration from the Pali Canon, or Tipitaka**, which scholars generally accept as the **oldest record of the Buddha's teachings**.
- It is **one of the two major branches** of Buddhism, the **other being Mahayana Buddhism**.
- **Owing to its historical dominance in southern Asia** (Sri Lanka, Thailand, and Burma), Theravada is **also identified as "Southern Buddhism,"** in contrast to "Northern Buddhism," which migrated northwards from India into Tibet, China, Japan, and Korea.
- Theravada is **sometimes identified as "Hinayana" (the "Lesser Vehicle"),** in contradistinction to "Mahayana" (the "Greater Vehicle"), which is usually a synonym for Tibetan Buddhism.
- It is the **dominant religion in Cambodia, Laos, Myanmar, Sri Lanka, and Thailand** and is practiced by minorities in India, Bangladesh, China, Nepal, and Vietnam.
- In contrast to Mahayana and Vajrayana, Theravāda **tends to be conservative in matters of doctrine and monastic discipline**.
- **Beliefs:**
 - Theravada Buddhism places a **strong emphasis on individual spiritual striving** and the **pursuit of personal enlightenment** (nirvana).
 - **Monastic life**, meditation, and moral conduct **are central to this path**. The **monastic community as a whole is called the sangha**.
 - Like all Buddhist traditions, Theravada Buddhism **upholds the Four Noble Truths**, which outline the nature of suffering (dukkha), its causes, its cessation, and the path to its cessation, which is the Eightfold Path.
 - **Meditation is a central practice in Theravada Buddhism**. The cultivation of mindfulness (sati) and insight meditation (vipassana) are key elements of the path to enlightenment.
 - Theravada Buddhists **believe in the law of karma**, which means that one's actions have consequences. [Social Issues](#)

Broadcasting Content Complaints Council (BCCC)

The Broadcasting Content Complaint Council (BCCC) recently asked entertainment channels to exercise "extreme caution" while portraying the scheduled castes and scheduled tribes in television programmes.

About the Broadcasting Content Complaints Council (BCCC):

- It is an **independent self-regulatory body set up by the Indian Broadcasting and Digital Foundation (IBDF) in June 2011**.
- The **primary role** of the BCCC is to **implement self-regulatory guidelines for non-news channels**, including general entertainment channels, kid's channels, and special interest channels.
- **The guidelines** have been **formulated after deliberations from the industry and the Government** of India around **areas such as national interest, racial and religious harmony**, ill treatment of children, social values, sex and nudity, **violence and crime**, gambling, drugs, smoking, tobacco consumption, alcohol, defamation, harm, and offence.
- **Any viewer can lodge a complaint about** issues related to **television programmes/ shows, non-news & current affairs TV channels, and other digital content broadcaster** members or associate members of IBDF India.
- **Composition:** BCCC is composed of **13 members**.
 - One chairperson
 - Four non-broadcast members
 - Four members from the national-level statutory commissions
 - Four members from the broadcast industry
- **How does BCCC work?**

- In the **case of a valid complaint**, the **respective channel is asked to provide their view** on the offending content **within one working week** of receipt of a letter from BCCC.
- **Post evaluation of the channel's response**, If the BCCC committee is **not satisfied**, it has the **power to pass a directive asking for necessary modifications or withdrawal of such content; failing which, the BCCC sends out a detailed report to the Ministry of Information and Broadcasting within 24 hours**.

Key Facts about the Indian Broadcasting & Digital Foundation (IBDF):

- The **Indian Broadcasting Foundation** was **established in 1999** as the **apex body of broadcasters**.
- The organization has recently been **rechristened the Indian Broadcasting and Digital Foundation (IBDF)**, as it expands its purview to **cover digital platforms** to bring all digital over-the-top streaming firms under one roof.
- The organisation is credited as the **spokesman of the Indian broadcasting industry**.
- IBDF's **members comprise both news and non-news channels** (GEC, sports, music, movies, infotainment,).
- IBDF **provides research-based legislative inputs to the government** and **carries out advocacy** on various fiscal, regulatory, and other business issues to **facilitate the drafting of conducive policies**, resolution of issues, and introduction of necessary changes in the overall system.

Source : [Exercise extreme caution on portrayal of SCs, STs: BCCC advisory to entertainment channels](#) [Polity & Governance](#)

What is Curcuma kakchingense?

Three researchers in Manipur recently discovered a new flowering plant species and have named the new species Curcuma kakchingense.



About Curcuma kakchingense:

- It is a new **flowering plant species discovered in Manipur**.
- It is a **member of the angiospermic family Zingiberaceae**, which includes well-known plants like **Curcuma (turmeric), gingers, and cardamom**.
- It is a robust plant, as **tall as eight feet**, having **large terminal inflorescence**.
- **It was found thriving along the banks of the Sekmai River** in the Kakching District of Manipur.
- It bears a striking **resemblance to Curcuma longa**, known locally as "**Yaingung**," and Curcuma phrayawan, a species from Thailand, but is **distinguished by having lemon-yellow rhizomes with a very bitter taste**.
- It has been **classified as "Data Deficient" (DD) under the IUCN Red List** category.
- **Importance of Curcuma plants:**
 - Several Curcuma species, including the turmeric (Curcuma longa) are important for their **use in cuisines, traditional medicines, spices, dyes, perfumes, cosmetics**, and as ornamental plants.
 - **Curcumin and several curcuminoids found in curcuma species are nontoxic polyphenolic compounds that have biological activities**.
 - **The essential oil of curcuma species** possesses a wide variety of **pharmacological properties**, including **anti-inflammatory, anti-cancerous, anti-diabetic**, anti-hepatotoxic, anti-diarrheal, carminative, diuretic, anti-rheumatic, hypotensive, anti-oxidant, anti-microbial, anti-viral, insecticidal, etc. [Source : New flowering plant species discovered in Manipur](#) [Environment](#)

Google manufacturing plans in India

Why in news?

- Prime Minister Narendra Modi and the CEO of Alphabet, Sundar Pichai discussed the company's plan to establish an electronics manufacturing ecosystem in India.

- During this interaction, PM Modi appreciated Google's partnership with Hewlett Packard (HP) to **manufacture Chromebook laptops in India**.
 - Alphabet is the parent company of Google.

What's in today's article? Chromebook Manufacturing in India News Summary

Chromebook Manufacturing in India

- The Chromebooks are laptops that run on Google's Chrome operating system.
 - Chromebooks are among the most popular laptops in educational institutions worldwide.
 - However, these are yet to find mainstream traction in India, where most laptops run on Microsoft's Windows operating system.
- These are being built at the Flex facility near Chennai, where HP has been producing a range of laptops and desktops since August 2020.
- Production began on October 2, and will cater to the demand, mainly from the education sector, for affordable PCs in India.

News Summary: Google manufacturing plans in India

What is the significance of the manufacturing of the Chromebooks?

- The production of Chromebooks in India is a major boost to the country's electronics manufacturing ambitions.
- It has put Google among the most high-profile names to begin manufacturing in India.
- This is significant as companies all over the world are looking to diversify supply chains in response to geopolitical uncertainties.
- The manufacture of Chromebooks in India will help Google compete more effectively with Windows computers built by companies such as Dell, Lenovo, and Asus.

Why is local electronics manufacturing important for India?

- **Potential manufacturing hub**
 - At present, companies, especially from the US, are looking to diversify away from China, which has been the hub of such manufacturing for decades.
 - Against this backdrop, India seeks to establish itself as a "trusted partner" in global supply chains.
- **Rising imports of electronic goods**
 - Indian imports of electronic goods and laptops/ computers have increased in the last few years.
 - During April-June this year, the import of electronic goods increased to \$6.96 billion from \$4.73 billion in the year-ago period.
 - The biggest share of imports is in the category of personal computers, including laptops and palmtops.
 - Under this category, imports from China stood at \$558.36 million in April-May this year as against \$618.26 million in the year-ago period.
 - China accounts for roughly 70-80% of Indian imports of personal computers and laptops.
 - New Delhi would like to change this situation as soon as possible.

Current Status

- As the window for the Centre's production-linked incentive (PLI) scheme closed in August, more than 40 companies applied to participate in the programme to manufacture laptops, computers and servers in India.
- These companies included Dell, HP, Asus, Acer, and Lenovo. Apple chose to not apply.
- The government is expected to clear applications of around 30 companies soon, the majority of which will start production from April 2024.

What else is India doing apart from seeking to incentivise manufacturing in the country?

- India has also adopted policy changes to discourage imports from China.
- **Licensing requirements on import of laptops and computers**

- In August 2023, the government had attempted to impose a licensing requirement on the import of laptops and computers.
- However, it was forced to delay the implementation of the directive until October 31 after a strong pushback from the industry.
- **Introduction of import management system**
 - The Centre has now introduced the so-called import management system.
 - Under this system, companies will be required to register and disclose data related to their imports.
 - This includes countries from which they import electronic hardware such as laptops and personal computers, and domestic sales value.
- **Quota system using credit formula**
 - The quota system, as envisaged earlier, has been put on the back burner for now.
 - It will be implemented in a staggered manner by means of a credit formula.
 - Under this formula, the government will create a ratio between domestic production and imports, and depending on the former, will allow the latter.
- **Supplies from trusted sources**
 - Eventually, the government will also impose a condition on companies to reorient their supplies from "trusted sources".
 - This move is squarely aimed at reducing import dependence on China.

Economics

Supreme Court's verdict on same-sex marriage

Why in news?

- A five-judge Constitution Bench headed by Chief Justice of India (CJI) D Y Chandrachud unanimously declined to recognise same-sex marriages.
- The Bench, in a 3-2 majority verdict, also declined to allow civil unions for non-heterosexual couples.

What's in today's article?

- Special Marriage Act (SMA), 1954
- Civil Unions
- Key takeaways from the verdict

Special Marriage Act (SMA), 1954

- **Background:**
 - All marriages in India can be registered under the respective personal law -Hindu Marriage Act, 1955, Muslim Marriage Act, 1954, or under the Special Marriage Act, 1954.
 - It is the duty of the judiciary to ensure that the rights of both the husband and wife are protected.
- **About**
 - The Special Marriage Act, 1954 is an Act of the Parliament of India with provision for civil marriage for people of India and all Indian nationals in foreign countries, irrespective of religion or faith followed by either party.
 - A marriage under the Special Marriage Act, 1954 allows people from two different religious backgrounds to come together in the bond of marriage. It lays down the procedure for both solemnization and registration of marriage
- **Key provisions**
 - **Prior notice to the marriage officer**
 - The couples have to serve a notice with the relevant documents to the Marriage Officer 30 days before the intended date of the marriage.
 - **Registration process**
 - Both parties are required to be present after the submission of documents for issuance of public notice inviting objections.
 - Registration is done 30 days after the date of notice after deciding any objection that may have been received during that period by the SDM.
 - Both parties along with three witnesses are required to be present on the date of registration.

What is civil union?

- A civil union under the Special Marriage Act is a legally recognized union between two individuals, regardless of their caste, religion, or nationality.
 - It also refers to the legal status that allows same-sex couples specific rights and responsibilities normally conferred upon married couples.
- This type of union allows couples to have a formal, legally binding relationship without going through the traditional rituals and customs of a religious or cultural marriage ceremony.
- Although a civil union resembles a marriage and brings with it employment, inheritance, property, and parental rights, there are some differences between the two.

How is a civil union different from marriage?

- Religious or cultural beliefs do not play a role in a civil union, whereas they often do in a marriage.
- In some countries, civil unions are only available to same-sex couples, whereas marriage is available to both same-sex and opposite-sex couples.
- A civil union may not be recognized by all states or countries, whereas a marriage is generally recognized worldwide.

Key takeaways from the verdict

- **Right to marry not a fundamental right**
 - All five judges on the Bench agreed that there is no fundamental right to marry under the Constitution.
- **Not possible to tweak the Special Marriage Act (SMA), 1954**
 - All five judges also unanimously agreed that it is not possible to tweak the SMA 1954 by using gender neutral language to allow same-sex marriage.
 - The petitioners had asked the SC to interpret the word marriage as between spouses instead of man and woman.
 - Alternatively, the petitioners had asked for striking down provisions of the SMA that are gender-restrictive.
 - CJI said striking down the SMA provisions would jeopardise the legal framework for interfaith and inter-caste couples.
 - He added that interpreting the SMA in a gender-neutral way would amount to judicial lawmaking, which would violate the doctrine of separation of powers.
- **Declined to allow civil unions for non-heterosexual couples**
 - The bench ruled in a 3:2 verdict against civil unions for non-heterosexual couples.
 - The dissenting judges said that the right to form unions emanates from the fundamental right to freedom of speech and expression, and the right to life.
 - The minority views of the two judges held that the right to enter into a union cannot be restricted on the basis of sexual orientation.
 - Discrimination on the basis of sexual orientation is violative of Article 15 of the Constitution.
 - The majority views held that it was for the legislature, and not the Court, to formally recognise and grant legal status to non-heterosexual relationships.
- **On the bouquet of rights**
 - On the bouquet of rights, all five judges took note of the Centre's stand that a high-level Cabinet committee will look into rights that can be conferred on non-heterosexual couples.
 - This would range from opening joint bank accounts, same-sex spouses being a beneficiary for provident fund, pension or inheritance to such spouses, being able to take medical decisions for the other spouse, etc.
- **On rights to adopt children**
 - The SC agreed unanimously that one's sexual orientation cannot decide the capability or suitability of being adoptive parents.
 - However, the apex court, in a 3:2 split verdict, **held as valid the existing regulations that deny unmarried couples, including queer, the right to adopt a child as a couple.**
 - Since a same-sex couple cannot marry under Indian law, it follows that they cannot also adopt children as a couple.
 - However, since the Juvenile Justice Act 2015 permits a single person to adopt a child, same-sex couples were able to adopt children by designating one of the partners as the legal parent.

- In 2022, however, the Central Adoption Resource Authority (CARA) paid attention to this arrangement by issuing the Adoption Regulations.
- CARA, a government agency under the Union Ministry of Women and Child Development, lays down the rules for adopting children in India.
- This regulation required a couple to be in a two-year stable marital relationship to be eligible for adoption.
- Over and above this, a circular was also issued prohibiting a person from adopting a child if that person was in a live-in relationship.
- Consequently, queer couples became ineligible to adopt.
- The minority view by CJI Chandrachud and Justice Kaul said the CARA guidelines discriminate against atypical, unmarried couples to adopt children. **Polity & Governance**

Ethics Committee | Composition, Functions & Working

Why in News? Lok Sabha Speaker Om Birla has referred BJP MP Nishikant Dubey's "bribe-for-query" complaint against Trinamool Congress member Mahua Moitra to the Ethics Committee of the Lower House.

What's in Today's Article? Ethics Committee (Composition, Functions, Working, Difference from Privilege Committee) News Summary

Ethics Committee of the Parliament:

- This committee was constituted in Rajya Sabha in 1997 and in Lok Sabha in 2000.
- It enforces the code of conduct of members of Parliament. It examines the cases of misconduct and recommends appropriate action.
- Thus, it is **engaged in maintaining discipline and decorum in Parliament.**

Composition & Functions of the Ethics Committee Lok Sabha:

- The committee should not contain more than 15 members.
- The committee members are nominated by the Speaker and hold office for a term not exceeding one year.
- The committee can examine every complaint relating to unethical conduct of a member of Lok Sabha referred to it by the Speaker and make such recommendations as it may deem fit.
- The committee can formulate a Code of Conduct for members and suggest amendments or additions to the Code of Conduct from time to time.

Procedure for Complaint to the Ethics Committee Lok Sabha:

- Any person or member may make a complaint relating to unethical conduct of a member of Lok Sabha.
 - If a complaint is made by any person, it has to be forwarded by a member.
- On a matter being referred to the Committee, a preliminary inquiry shall be conducted by the Committee.
- If the Committee, after a preliminary inquiry, is of the opinion that there is no prima facie case, it may recommend that the matter may be dropped and the Chairperson shall intimate the Speaker accordingly.
- If the Committee, after preliminary inquiry, is of the opinion that there is a prima facie case, the Committee shall take up the matter for further examination.
- The recommendations of the Committee shall be presented in the form of a report.
- The report shall be presented to the Speaker who may direct that the report be laid on the Table of the House.
- The report of the Committee may also state the procedure to be followed by the House in giving effect to the recommendations made by the Committee.

Are the Recommendations of the Ethics Committee Binding?

- After the report has been presented, the Chairperson or any member of the Committee or any other member may move that the report be taken into consideration whereupon the Speaker may put the question to the House.
- Before putting the question to the House, the Speaker may permit a debate on the motion, not exceeding half an hour in duration
- The House may or may not agree with the recommendations contained in the report.

How is Ethics Committee Different from Privilege Committee?

- The Privilege committee examines the cases of breach of privileges of the House and its members and recommends appropriate action.
- The work of the Ethics Committee and the Privileges Committee often overlap.
- A corruption allegation against an MP can be sent to either body as it involves an accusation of serious breach of privilege and contempt of the House.

- The mandate of the Committee of Privileges is to safeguard the "freedom, authority and dignity of Parliament".
- These privileges are enjoyed by individual members as well as the House as a collective.
- Thus, while MPs can be examined for breach of privilege on corruption charges, **a person who is not an MP can also be accused of breach of privilege** for actions that attack the authority and dignity of the House.
- In the case of the Ethics Committee, however, **only an MP can be examined for misconduct**.

News Summary:

- Lok Sabha Speaker Om Birla has referred BJP MP Nishikant Dubey's "bribe-for-query" complaint against Trinamool Congress MP Mahua Moitra to the Ethics Committee of the Lower House.
- The BJP MP has **accused Mahua Moitra of accepting money from a businessman to ask questions in Parliament**.
- In his letter to the Speaker, Mr. Dubey said 50 of 61 questions that she has asked in Lok Sabha till recently were focused on the **Adani Group**.
- Meanwhile, Ms. Moitra moved the Delhi High Court seeking to restrain Mr. Dubey, and several social media platforms and media houses from posting, circulating or publishing any alleged fake and defamatory content against her. **Polity & Governance**

Targets Set by ISRO: Space station by 2035,

Indian on Moon by 2040 **Why in News?**

- Building on the success of the Indian space initiatives, including the recent Chandrayaan-3 and Aditya L1 Missions, the Indian PM announced two new targets for space agency ISRO.
- The two new targets are setting up an Indian space station by 2035 and taking the first Indian to Moon by 2040.

What's in Today's Article? Timeline of ISRO's Milestones Future Targets Set by ISRO

Timeline of ISRO's Milestones:



- **Chandrayaan-3 Mission:** It was successfully launched from the SDSC SHAR, India, on 14 July 2023 on a mission to demonstrate new technologies and to achieve India's first soft landing on the moon.
- **Aditya L1 Mission:** It is India's first space-based observatory to study the Sun. It was successfully launched from Satish Dhawan Space Centre today i.e., on 2 September, 2023.

Future Targets Set by ISRO:

- **Gaganyaan Mission/ India's human space flight programme:** A high-level meeting was chaired by the Indian PM to assess the progress of Gaganyaan Mission, under which the first test vehicle is slated to fly on October 21.
 - **Many technologies** such as the human-rated launch vehicle, crew escape system, space suit, and the system to maintain the environment inside the crew module are being developed for the first time for the Gaganyaan mission.
- **Bharatiya Antariksha Station (Indian Space Station):** The PM directed that India should now aim for new and ambitious goals, including setting up Indian Space Station by 2035.
 - The first indication of a sustained human programme and an eventual space station came in 2019 from the then ISRO chief K Sivan.
 - **He said the Indian space station is likely to be much smaller**, built by combining a couple of modules similar to the current crew module, weighing only 20 tonnes (ISS - 450 tonnes and Chinese Tiangong Space Station - 100 tonnes).
- **Sending first Indian to the Moon by 2040:** The Department of Space has been tasked with developing a roadmap for Moon exploration, including a series of Chandrayaan missions. The next Chandrayaan mission is likely to bring back Moon samples.
- **Preparations for a Venus mission:** The current ISRO chief S Somanath recently stated that it has already been configured.
 - While he did not provide details of the scientific experiments on the mission, a 2019 proposal had said that there would be 12 payloads, including a thermal camera, mass spectrometer and a cloud-monitoring camera.
- **Other targets:** In addition, ISRO will also work on a next generation launch vehicle, a new launch pad, and human-centric laboratories and technologies. **Science & Tech**

Rau's

Location in News (Gaza)

UPSC Syllabus: Prelims Sub Theme: Geography/UPSC

Why Egypt is keeping Gaza's Rafah border crossing shut.

Context: Egypt is wary of insecurity near the border with Gaza in Northeastern Sinai, where it faced an Islamist insurgency that peaked after 2013, after that it is largely regulated allowing aid to enter and medical evacuees to leave but preventing any large scale movement.

About Rafah border crossing

- It is crossing between the Gaza Strip and Egypt and is the sole route for aid to enter Gaza directly outside Israel.
- It is only exit that does not lead to Israeli territory.
- The crossing is at the south of the Gaza Strip and wedged between Israel, Egypt and the Mediterranean Sea.



Practice Question The area known as **Rafah border** sometimes appears in the news , with reference to this, consider the following statement.

1. It is the only route for aid to enter Gaza strip.
2. It is outside the Israel territory.
3. It is controlled by Hamas group.

How many of the above statements are correct?

(A) only one (B) only two (C) All three (D) None

Answer-B Statement 1 and 2 is correct-It is crossing between the Gaza Strip and Egypt and is the sole route for aid to enter Gaza directly outside Israel. Statement 3 is incorrect-it is controlled by Egypt.

Wildlife Protection (Amendment) Act, 2022

UPSC Syllabus:

Context - Many ecologists are incensed that an inordinate number of species have been included in the new schedules of the Wildlife Protection (Amendment) Act, 2022, without an objective or replicable process. In brief, Schedule 1, which confers the highest protection, contains about 600 species of vertebrates and hundreds of invertebrates, while Schedule 2 contains about 2,000 species (with 1,134 species of birds alone).

Wildlife protection amendment Act 2022 – *The amendment is primarily aimed at revising four aspects of the law: allowing delegation of functions of the State Boards for Wildlife (SBWLs) to a select set of people ("standing committee") as is currently the case with the National Board for Wildlife (NBWL); a rework of the schedules that list species according to the levels of protection they need in view of the threats they face; providing for the implementation of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES); and an exception to the requirement to obtain permission from the Chief Wildlife Warden for the transfer and transport of captive elephants for religious or other purposes.*

Positive Key features:

- **Holistic approach and widened scope** - In the long title of the Wild Life (Protection) Act, 1972, for the words "protection of wild animals, birds and plants", the words "conservation, protection and management of wild life" is substituted which points towards the change of focus towards the holistic approach.
- **Addition of new schedule:** a new schedule has been added for specimens listed in the Appendices under CITES (scheduled specimens).
- **Invasive alien species** - It empowers the central government to regulate or prohibit the import, trade, possession or proliferation of invasive alien species. The central government may authorise an officer to seize and dispose the invasive species.
- **Management Authority** : it will be appointed by the central government for the issuance of permits and certificates for trade in scheduled specimens in accordance with the CITES. Until now, CITES provisions were enforced through the Customs Act and not the Wildlife (Protection) Act, which was a major lacunae.
- **Decentralized management:** For sanctuaries falling under special areas, the management plan must be prepared after due consultation with the concerned Gram Sabha.
- **Declaring conservation reserves by Centre:** It empowers both Central and State governments to declare areas adjacent to national parks and sanctuaries as conservation reserve, Earlier only the state government had this power.
- **Surrender of captive animals:** Any person having a certificate of ownership can voluntarily surrender any captive animals or animal products to the Chief Wildlife Warden.

Issues remaining –

- **Reduction of schedules** has led to huge number of species falling in the same list which creates confusion as it is unclear where resources should be allocated on the basis of this list. The same level of protection is offered to tigers and jackals, to the great Indian bustard and common barn owls, to the king cobra and rat snakes.
- **Uncscientific classification** for e.g. the presence of the spotted deer (chital) in Schedule 1. Common throughout India, these are invasive in the Andaman Islands and have caused untold harm to the vegetation and herpetofauna. But they cannot be legally culled or removed because of the WLPA.
- **Commercial trade:** It leaves the door open for commercial trade in elephants. There is concern that the amendments have not defined what purposes elephants can be used for and have perhaps made it easier for the animals to be transported across the country.
- **Dilution of federal framework:** It has also been criticized for diluting the federal framework by seeking to displace the State Boards of Wildlife, which are chaired by the Chief Minister, with a Standing Committee headed by the union Forest minister.
- **Using animals for religious purpose:** In Section 43, elephants, Schedule 1 animal, are permitted to be used for 'religious or any other purpose'. Experts have also criticized the term 'other purpose'.
- **Lack of ownership:** There are 2,675 captive elephants in India and only 1,251 have ownership certificates. Experts believe that this unclear ownership was an issue and the provisions that are 'weak and indeterminate which can cause problems.
- **Hampering research:** Experts believe that listing so many species in schedule 1 will impact research as paperwork involved in getting permits for research is tedious and time consuming.